

U.S.S.N. 10,326,500

**Remarks**

Thorough examination by the Examiner is noted and appreciated.

The claims have been amended to overcome Examiners objections to clarify Applicants disclosed invention.

Support for the amended claims is found in the original claims and the Specification.

No new matter has been added.

For example, support for amendments in claims 1 and 9 are found in paragraphs 0036 thru 0039 of the Specification.

**Claim Objections**

The claims have been amended to overcome Examiners objections.

**Claim Rejections under 35 USC 102**

1. Claim 1 stands rejected under 35 USC Section 102(e) as being anticipated by Rice (US 2,640, 807).

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Rice discloses a system for treating acid and cyanide waste waters (liquids) (col 1, lines 1-30; e.g., claim 1). Rice discloses conditioning tanks for maintaining a large body of sludge in the conditioning tanks bottom portion for passing the liquid waste effluent (col 2, lines 4-14).

In one embodiment, the wastewater treatment system of Rice passes a first wastewater (cyanide) from a first conditioning tank through sludge to a second conditioning tank and subsequently through sludge to a settling tank (col 2, lines 15-21; Figures IV and V). In another embodiment, wastewater is passed from each conditioning tank to the settling tank (see Figure III).

In either embodiment, lime and/or chlorine are added (item 29 and 47) to the waste water supply line prior to the wastewater reaching a respective conditioning tank. Each of the conditioning tanks and settling tanks include downcomers (e.g., item 55 and 74 Figure 3) to enhance liquid phase reactions (col 6, lines 63-70). The wastewater is mixed with sludge at the bottom of the tank. The reacted waste water in the conditioning tanks overflows as it builds up over treatment time (i.e., continuous flow of wastewater, continuous flow reactor) into an annular trough in the conditioning tank prior passing as effluent to the settling tank (col 6, lines 70-75). The waste water from the first conditioning tank and the second conditioning tank then passes into separate concentrically positioned downcomers in the settling tank (col 7, lines 50-55; lines 60-65) for **continuous flow** reaction.

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Thus, Rice fails to teach several aspects of Applicants disclosed and claimed invention.

Among other elements of Applicants disclosed and claimed invention:

"A system for batch treating semiconductor manufacturing process wastewater"

Rice also fails to teach the following elements of Applicants disclosed and claimed invention:

"a batch reaction tank provided in fluid communication with said first collection tank and said second collection tank for receiving and sedimenting particles from a batch of wastewater comprising the first wastewater and the second wastewater wherein said reaction tank is equipped to add an additive to said batch to precipitate said particles for sedimentation; and

at least one clarifier provided in fluid communication with said reaction tank for separating the third particles from the first said batch of wastewater."

Rice is clearly insufficient to make out a *prima facie* case of anticipation with respect to Applicants disclosed and claimed invention.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

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"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Since Rice is insufficient to make out a *prima facie* case of anticipation with respect to Applicants independent claims, neither is does Rice anticipate Applicants dependent claims.

**Claim Rejections under 35 USC 103**

1. Claims 1-16 stand rejected under 35 USC Section 103(a) as being unpatentable over Rice, as applied to claim 1, above, and further in view of Applicants alleged admitted prior art.

Applicants reiterate the comments made above with respect to Rice.

In Applicants disclosure, Applicants disclose a prior art process for treating a single wastewater source in a semiconductor manufacturing process (see pages 6 and 7 of Applicants Specification, and Figure 1). Applicants disclose a single collection tank to feed a holding tank which feeds a reaction tank. Nowhere do Applicants disclose or suggest Applicants disclosed and claimed invention.

Moreover, there appears to be no motivation to combine the teachings of Rice and

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Applicants alleged admitted prior art. The liquid phase reactors (which include downcomers in condition tanks and a settling tank) which includes an annular overflow portion to collect the treated waste water prior to passing through sludge to the settling tank, works by a different principal of operation than the disclosed sedimentation reaction tank of Applicants discussion of the prior art.

For example, by requiring overflow into an annular portion of the condition tanks prior to passing to the reaction tank (also including an overflow collection annular outer portion) could not accomplish the sedimentation function of the reaction and sedimentation tank discussed by Applicants in the prior art, and any modification of the systems of Rice or that discussed by Applicants would make both systems unsuitable for their intended purpose.

Thus, the only motivation for combination appears to be Applicants disclosure.

In addition, the system of Rice teaches away from the Applicants claimed invention by teaching adding additives in the supply lines leading to the conditioning tanks where reaction takes place in the conditioning tanks and by teaching no additive lines in the settling tank (where reaction continues to takes place). Thus Rice actually teaches three reaction tanks where two of the reaction tanks (all including downcomers) supply a third reaction tank where settling takes place.

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Even assuming *arguendo* a proper motivation for combining the teachings Rice and Applicants discussion of the prior art, such combination does not produce Applicants disclosed and claimed invention.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

"The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

"If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

"A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention." *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).

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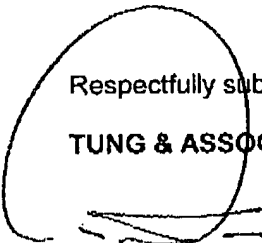
Since Rice in combination with Applicants disclosure is insufficient to make out a *prima facie* case of obviousness with respect to Applicants independent claims, neither do the combined references make out a *prima facie* case of obviousness with respect to Applicants dependent claims.

Based on the foregoing, Applicants respectfully submit that Applicants Claims are now in condition for allowance.. Such favorable action by the Examiner at an early date is respectfully solicited.

In the event that the present invention as claimed is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,

**TUNG & ASSOCIATES, PLL**



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